

METHOD AND APPARATUS FOR A BANDWIDTH BROKER IN A PACKET
NETWORK

ABSTRACT OF THE DISCLOSURE

A method and apparatus for allocating bandwidth within a network domain. A centralized bandwidth broker maintains a link-level database including detailed flow data for individual links in a network domain and a path-level database including summarized flow data for individual paths in the network domain. The bandwidth broker determines bandwidth allocations at a path-level by allocating discrete amounts of bandwidth, termed quotas, based on flow requests. If a flow request cannot be satisfied by allocating quotas, then the bandwidth broker uses the link-level database to recover bandwidth from unused bandwidth by other paths on the same link in order to satisfy the flow request. In another embodiment of a bandwidth broker, the centralized bandwidth broker is replaced by a distributed bandwidth broker including a central bandwidth broker and one or more edge bandwidth brokers. An edge bandwidth broker conducts path-level allocations and requests or releases quotas from and to the central bandwidth broker. The central bandwidth broker conducts link-level allocations and allocates or de-allocates quotas to and from the path maintained by the edge bandwidth broker.

FLC/flc